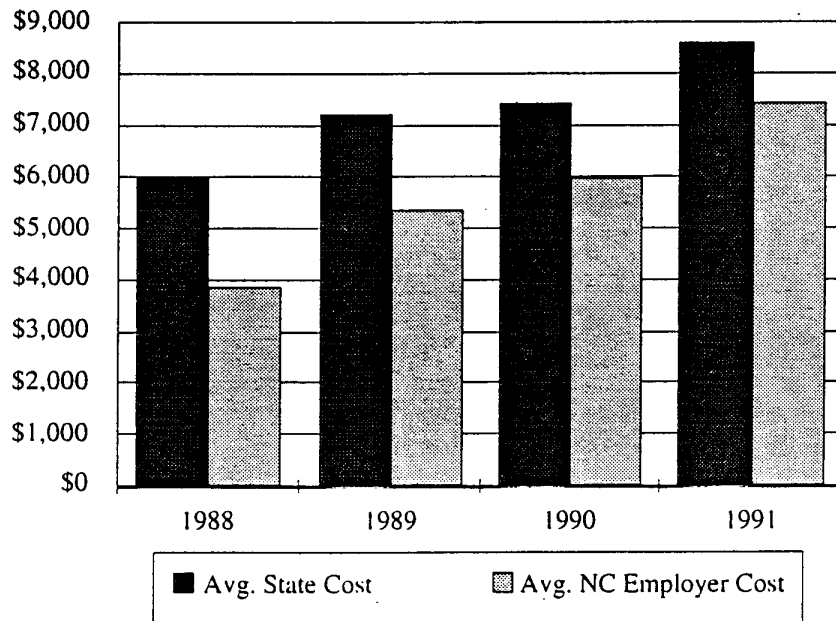


**Exhibit 3-20**  
**Hospital Charge per Admission**



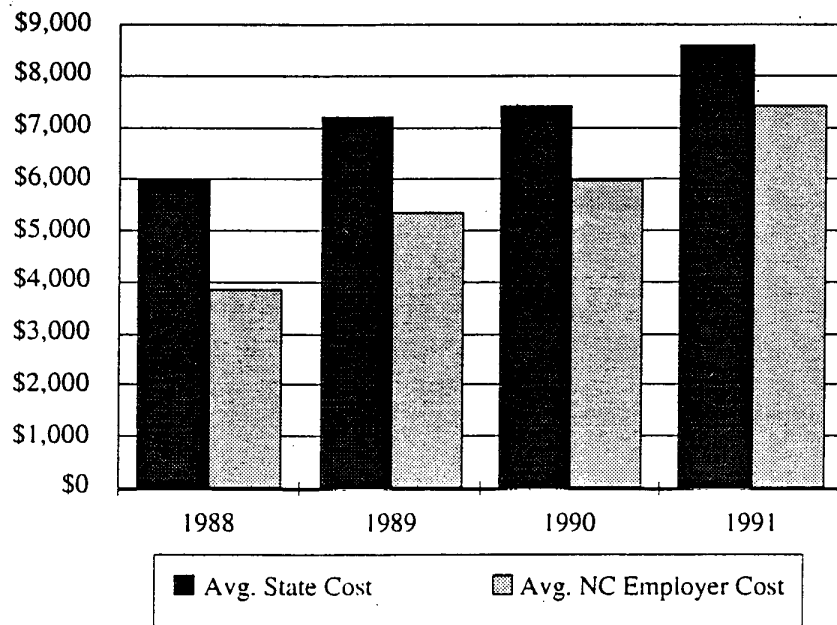
Source: Mutual of Omaha Companies (MOC) Current Trends in Health Care Costs and Utilization, Group Actuarial 1991 Semi-Annual Report

Fiscal Research Division's (FRD) State of North Carolina Comprehensive Major Medical Plan for Teachers and State Employees Summary Analysis of Claims Cost

David DeVries' Report on North Carolina Teachers and State Employees Health Benefits Program

Date: MOC - September 1991  
FRD - July 1991  
DD - November 1991

**Exhibit 3-20**  
**Hospital Charge per Admission**



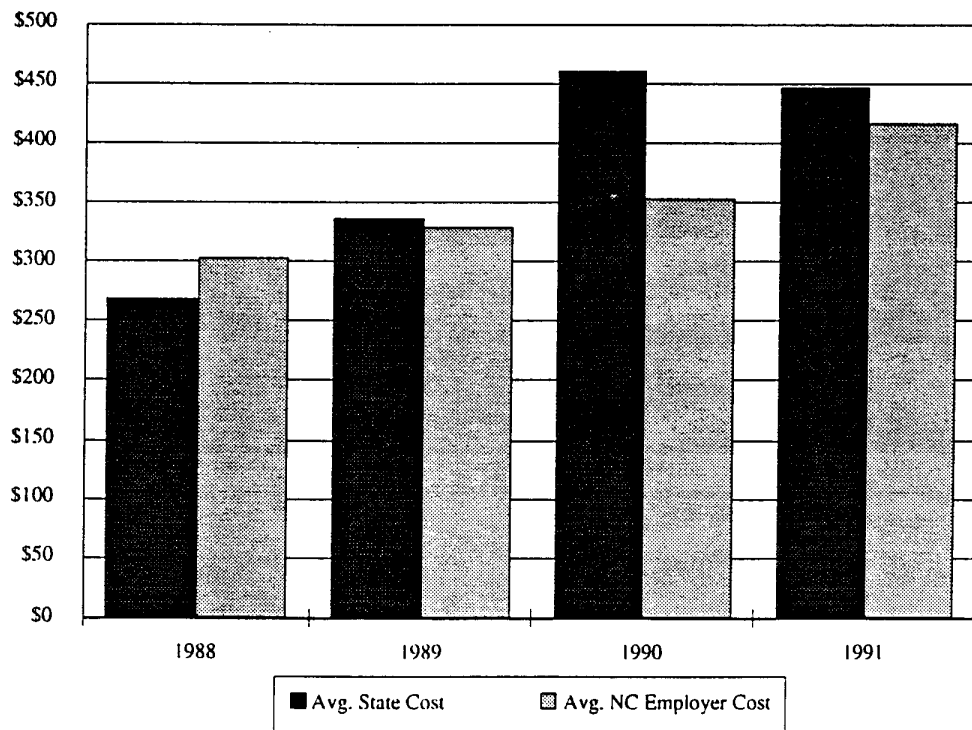
Source: Mutual of Omaha Companies (MOC) Current Trends in Health Care Costs and Utilization, Group Actuarial 1991 Semi-Annual Report

Fiscal Research Division's (FRD) State of North Carolina Comprehensive Major Medical Plan for Teachers and State Employees Summary Analysis of Claims Cost

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Date: MOC - September 1991  
FRD - July 1991  
DD - November 1991

### Exhibit 3-21 Charge per Outpatient Visit



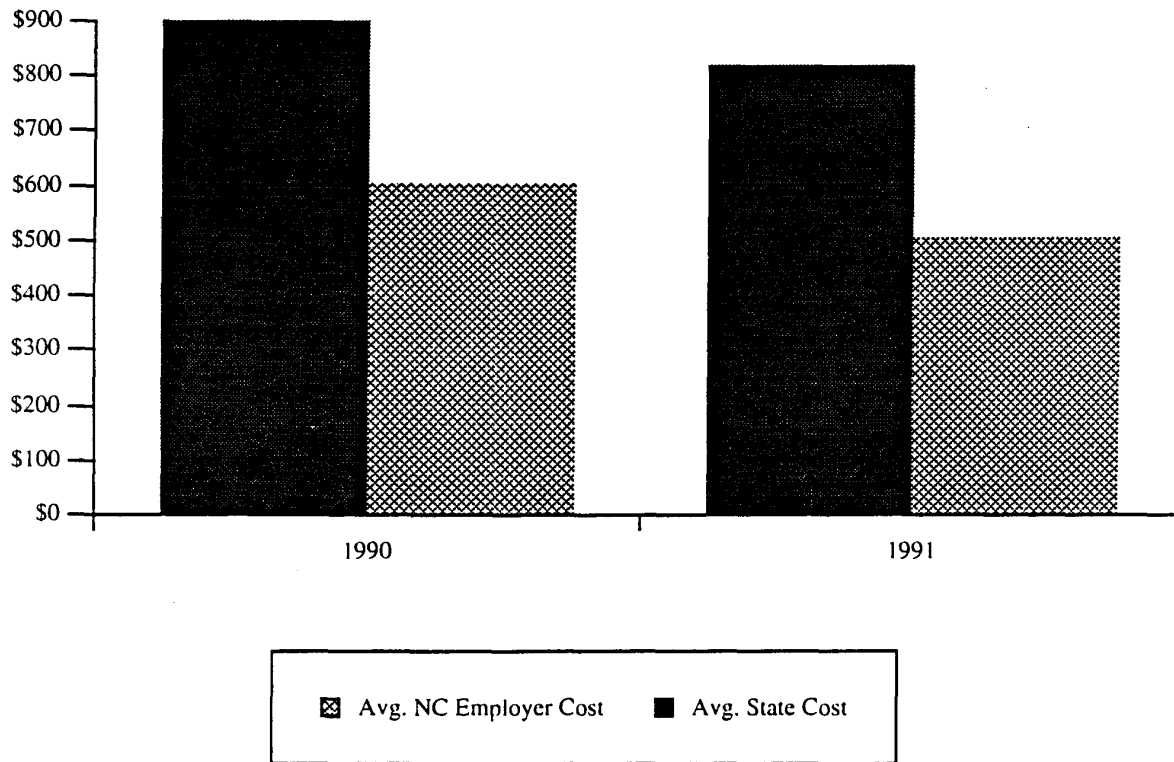
Source: Mutual of Omaha Companies (MOC) Current Trends in Health Care Costs  
Costs and Utilization, Group Actuarial 1991 Semi-Annual report

Fiscal Research Division's (FRD) State of North Carolina Comprehensive  
Major Medical Plan for Teachers and State Employees Summary Analysis  
of Claims Cost

David DeVries' report on North Carolina Teachers and State Employees  
Health Benefits Program

Date: MOC - September 1991  
FRD - July 1991  
DD - November 1991

### Exhibit 3-22 Outpatient Surgical Charge per Visit



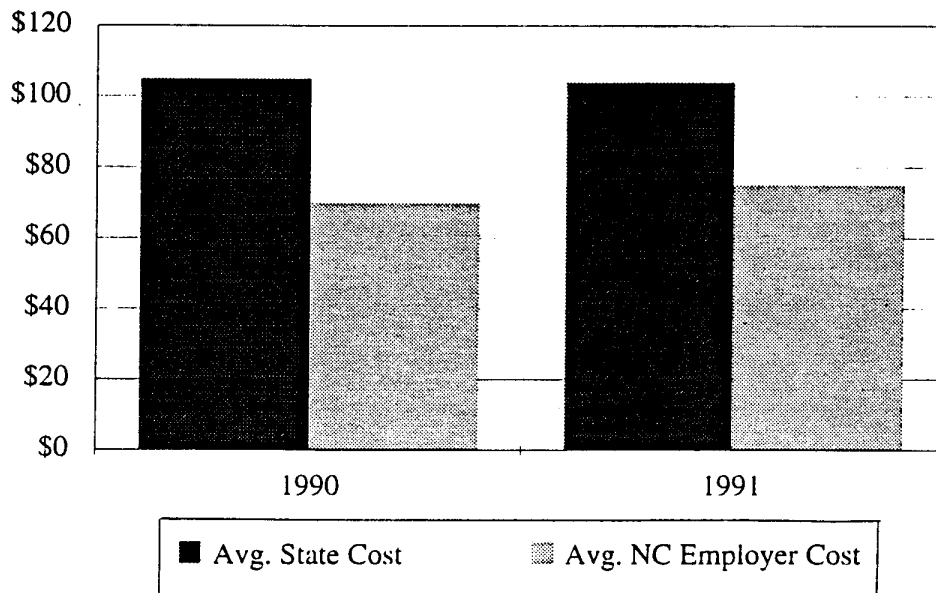
Source: Mutual of Omaha Companies (MOC) Current Trends in Health Care Costs and Utilization, Group Actuarial 1991 Semi-Annual Report

Fiscal Research Division's (FDR) State of North Carolina Comprehensive Major Medical Plan for Teachers and State Employees Summary Analysis of Claims Cost

David DeVries' report on North Carolina Teachers and State Employees Health Benefits Program

Date: MOC - September 1991  
FRD - July 1991  
DD - November 1991

**Exhibit 3-23**  
**Charge per Office Visit**



Source: Mutual of Omaha Companies (MOC) Current Trends in Health Care Costs and Utilization, Group Actuarial 1991 Semi-Annual Report

Fiscal Research Division's (FRD) State of North Carolina Comprehensive Major Medical Plan for Teachers and State Employees Summary Analysis of Claims Cost

David DeVries' Report on North Carolina Teachers and State Employees Health Benefits Program

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Recognizing that the health care costs for the State are higher than for other employers, the plan administrator has negotiated a discount for services provided by several hospitals (i.e., Preferred Provider Hospital Plan). This Hospital PPO plan (effective July 1992) is expected to save the State \$20 million. While this type of straight discount will prevent the State from paying the highest retail cost for medical care at hospitals, it does not represent the maximum savings that could be achieved by applying similar or more effective cost containment strategies to the entire population of medical care providers.

The State has also attempted to lower medical costs by participating in the Blue Cross and Blue Shield (BCBS) CostWise program. Under the CostWise program, participating doctors have agreed to charge no more than BCBS's usual, customary, and reasonable (UCR) allowance for covered services. If an employee seeks services from a non-participating doctor, the employee is responsible for the amount of a charge above the CostWise allowance.

BCBS CostWise program UCR allowances are typically designed so that only 10 percent of all doctor's charges exceed the allowance. UCR does not take into account a doctor's practice pattern, which includes the number of required follow-up visits and services provided per visit. Greater savings may be achieved by encouraging employees to use providers that are not only cost efficient but also have efficient patterns of practice.

### **Recommendations**

- The State should target utilization of cost-efficient providers. The plan administrator currently has the ability to track exactly which hospitals and physicians are utilized by plan participants and the differences in those providers' costs.
- The State should devise a plan that encourages employees to use cost-efficient providers. The traditional method has been for employers to form a PPO. In a PPO arrangement, the State would contract directly (or indirectly through an insurance company) with a provider organization that secures agreements from physicians, hospitals, and laboratories to deliver medical services on a discounted fee basis. PPOs are relatively unregulated with respect to rate-seeking and requirements for employees, which allows flexibility among the parties involved in structuring the preferred pricing arrangement.

To illustrate a PPO's effectiveness, the Texas Heart Institute and the Cleveland Clinic currently offer a flat fee for Coronary Artery Bypass Grafts (CABG). Their discounts range from 20 percent to 30 percent. In 1989, Blue Cross and Blue Shield of North Carolina showed that 8 out of 10,000 North Carolinians would have CABG at an average cost of \$41,860. With a 20 percent discount, the State would have saved \$2,126,000 that year if a PPO plan had been in effect. Other high cost procedures could also be negotiated.

According to the Conference Board analysis of managed care, the following overall savings were achieved by corporations using PPOs:

- BP America saved 6 percent on hospital costs
- Southern California Edison saved 10.6 percent
- Honeywell saved 30 percent

A Rand Corporation study showed that average annual outpatient costs for PPO users were from \$66 to \$422 lower than those for indemnity plan users.

With the implementation of a PPO, the State will have to enter into contracts with hundreds of different providers. This will create a significant administrative expense as well as the need for additional staff to monitor the contracts. We estimate this cost to range between \$13 to \$18 million in the first year of implementation and half that amount each subsequent year of the program.

Alternatively, the State could redesign its plan to increase the utilization of lower cost providers. The plan could be designed to limit payments to a level equal to average provider costs. The State could use the information collected by the plan administrator to inform employees of which providers charge an above average amount. Providers will then have to meet the average price or risk losing State employees and their dependents as patients. Providing participants with cost information will maximize savings while minimizing administrative costs.

**Estimated Savings if Cost Efficient  
Providers Are Used  
(in millions of \$)**

Plan Year Ending	Medical Claim Cost if no Change Enacted	Medical Claim Cost if Change Enacted*	Operational Cost of Program	Total Cost of Program *	Net Savings
1993	\$ 639	\$ 569	\$13 to 18	\$ 583	\$45 to 64
1994	743	728	7 to 9	736	5 to 9
1995	863	846	7 to 9	854	6 to 12
1996	1,003	983	7 to 9	991	9 to 15
1997	1,165	1,142	7 to 9	1,150	12 to 18

\*Estimates may vary  $\pm 10$  percent

***Finding 10 - The State has a limited program to minimize catastrophic illness costs, but it is not structured to achieve substantial cost savings***

In 1991, nine percent of the State's medical plan participants received 75 percent of all benefit dollars paid. Typically, these individuals received treatment for catastrophic illness, which is treatment that involves intensive, leading-edge medical technology that is needed to save the individual's life.

Some catastrophic health problems are preventable, others are significantly less expensive to treat if caught at an early stage, while others are unpredictable and thus not possible to treat less expensively. Based on Mutual of Omaha's statistics, the chart below shows the expected disease occurrence for State employees in 1992. These diseases are typical of illnesses that can be detected at an early stage and treated less expensively.

<u>Disease</u>	<u>Projected Number of Occurrences Among State Employees</u>	<u>Projected 1992 Cost</u>
Heart disease	9,288	\$39,436,000
Digestive cancer	516	5,548,000
Genitourinary cancer	1,204	5,495,000
Respiratory cancer	387	4,077,000
Other cancer	3,225	12,476,000
Liver and gallbladder	1,978	9,548,000
Pneumonia and flu	5,504	<u>7,336,000</u>
		\$83,916,000

The State has a preventive package to help manage these costs. It consists of a \$150 per year maximum payment for preventive care charges, subject to the indemnity plan's deductibles and coinsurance. Eligible charges include:

- Pap smears
- Mammograms
- Prostate and rectal exams
- Well-baby exams
- Immunizations

There are several other types of programs that the State could adopt to help minimize the effects of certain catastrophic illnesses. The most effective preventive programs attempt to manage illnesses instead of attempting to modify behavior. Behavior modification, such as stopping smoking to prevent lung cancer, is difficult to achieve and the percentage of people who return to the life-threatening behavior is typically in excess of 85 percent.

Managing catastrophic illness involves ensuring that those individuals at risk follow an early detection and treatment plan. According to the National Institutes of Health:

- 85 percent of high risk women do not get routine mammograms
- 60 percent of high risk women do not get routine cervical cancer screening
- 69 percent of diabetics do not comply with their treatment program

- 20 percent of all individuals have uncontrolled high serum cholesterol

There are several reasons why individuals at risk do not comply with early treatment programs, all of which the State can address. These reasons include:

- Cost - employees cannot afford the required tests or prescriptions
- Lack of knowledge - employees do not know that they are at risk
- Convenience - employees do not make the time to receive necessary treatment

A strong preventive care program can more than pay for itself by reducing overall health care costs. For example, low birth weight babies are one of the three most expensive medical conditions for which employers must pay. There are several causes for low birth weight deliveries, such as the following:

<u>Cause</u>	<u>Controllable</u>
Maternal vascular compromise	No
High altitude with decreased oxygen	No
Small stature of mother	No
Maternal smoking while pregnant	Yes
Low maternal age	No
Use of narcotics while pregnant	Yes
Alcohol intake while pregnant	Yes
Lack of prenatal care	Yes

In 1991, the National Commission to Prevent Infant Mortality found that 33 percent of all pregnant women received inadequate prenatal care. Thus, an aggressive prenatal program could reduce the number of low birth weight babies. Numerically, this can represent substantial savings.

Using National Center for Health statistics, we estimate that State employees will have 300 low birth weight babies and 4,050 full birth weight babies in 1992. If we assume that 50 percent of those cases of low birth weight babies are not preventable, then there are 150 cases of low birth weight that can be prevented. For 1988 (the last year for which data are available), if we assume that the average total cost of a low birth weight baby equaled the national average of \$95,000, these 150 births cost the State \$14,250,000.

If the State had an expanded, early treatment, prenatal program that resulted in 80 percent of those births being carried to full birth weight, the savings to the State would have been \$11,000,000, or 4 percent of overall annual claim costs. There would also be ongoing savings because low birth weight survivors generally have higher medical expenses throughout their lives.

### **Recommendation**

The State should implement a program to better manage catastrophic costs. If the State were to implement an expanded catastrophic care detection and prevention program, the State's medical plan would realize significant savings. Savings would result from lowering the overall claim level and the lower claim level would result from avoiding charges for certain illnesses such as preventable low birth weight babies and preventable heart attacks. However, these savings during the first two to three years would be reduced because of an acceleration of treatments for other illnesses.

The detection and prevention program will achieve significant savings in later years. Over the first two to three years, the savings will be smaller as a result of the acceleration of the detection and treatment of chronic and catastrophic illness in its early stages. As an example, a detection and prevention program for cancer will have a higher number of individuals screened and treated for early stages of cancer as a result of the earlier detection. While the cost of treatment will be lower, the increased number of individuals being treated in these early years of the program will partially offset the savings generated.

Despite increases in early treatment costs, net savings to the plan during the first two to three years of the program are estimated to be 10 percent; i.e., medical plan costs will be 10 percent less than if the program were not implemented. After the third year, savings should be equal to 20 percent of current program costs because the number of individuals treated for illnesses such as cancer will decrease to normal levels.

An additional benefit will be that the medical plan's annual rate of increase will be reduced. Early treatment of catastrophic illnesses generally uses more routine medical care that does not increase in cost as rapidly as the technology needed to treat an illness that poses an immediate threat to a person's life. The potential net reduction in the State's current medical trend of 20 percent annual increase would be 30 percent to 50 percent if the plan were implemented.

**Estimated Savings if Early Detection  
and Prevention Program Implemented\***  
(in millions of \$)

<b>Plan Year Ending</b>	<b>Medical Claim Cost if no Change Enacted</b>	<b>Medical Claim Cost if Change Enacted*</b>	<b>Operational Cost of Program</b>	<b>Total Cost of Program *</b>	<b>Net Savings</b>
<b>1993</b>	<b>\$ 639</b>	<b>\$569 to 576</b>	<b>\$22 to 26</b>	<b>\$584 to 602</b>	<b>\$37 to 55</b>
<b>1994</b>	<b>743</b>	<b>579 to 609</b>	<b>13 to 22</b>	<b>597 to 631</b>	<b>112 to 146</b>
<b>1995</b>	<b>863</b>	<b>663 to 699</b>	<b>19 to 23</b>	<b>682 to 722</b>	<b>141 to 181</b>
<b>1996</b>	<b>1,003</b>	<b>769 to 811</b>	<b>20 to 24</b>	<b>789 to 835</b>	<b>168 to 214</b>
<b>1997</b>	<b>1,165</b>	<b>892 to 942</b>	<b>21 to 25</b>	<b>913 to 967</b>	<b>198 to 252</b>

\*Does not take into consideration the impact of any other plan change.

In addition to the cost savings to the medical plan, additional benefits would accrue to the State from the preventive program, such as a reduction in the numbers of days absent from work because of sickness.

Claim data maintained by BCBS and readily available demographic data should be used to conduct a study and derive reliable savings estimates. To conduct the study, access will be needed to BCBS claim data and demographic information. The plan administrator and BCBS will need to be consulted regarding the current claim administration system's ability to administer the program. Appropriate representatives of the executive and legislative branches will be required to review the program's design and the speed with which it can be implemented. Physicians, hospital administrators, and employees should also be consulted about the best way to structure the program to maximize its acceptance and effectiveness.